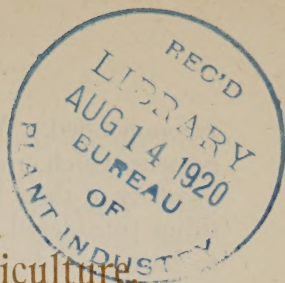
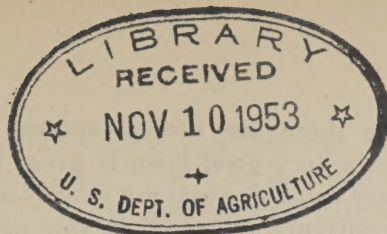


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## United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Seed Distribution,

WASHINGTON, D. C.

### MAKING AND MAINTAINING A LAWN.

The development of a satisfactory lawn depends to a large degree on the foundation upon which it has been started. A really good lawn rarely results from a poor beginning, and no end of effort and expense will overcome mistakes in preliminary preparation.

#### PREPARATION OF SOIL.

A suitable soil is the first consideration in lawn making. The soil is an especially important factor in view of our somewhat unfavorable climate for turf-forming grasses. Therefore it must be made as favorable as possible for the species that are to be seeded. There are few if any soils that can not be improved by treatment. In fact, the soil of most lawns is derived from the excavation for cellar or basement prior to the construction of the dwelling. Good drainage should be secured before further preparation is made. In comparatively few cases will tilling be necessary except where the area is extensive or where thorough surface drainage is impracticable. A reasonably fertile soil can be obtained by incorporating a heavy dressing of well-rotted barnyard manure or compost with the original top soil. At the same time pulverized limestone or lime in some suitable form should be added at the rate of not less than 100 pounds per 1,000 square feet. Lime is very essential in promoting the growth of the lawn grasses that are commonly used.

Preliminary preparations for seeding should begin several weeks, if possible, prior to seeding to allow sufficient time for the ground to become thoroughly settled and for weed seeds to germinate.

#### SEED AND SEEDING.

Except perhaps in the northern and northeastern portions of this country, early autumn seeding is much more satisfactory than spring seeding. In fact, south of Pennsylvania spring seeding is not to be



recommended. While there are several species of turf-forming grasses which produce a very good lawn if given proper care, seed of many of them is very expensive and not readily available. Everything considered, the mixture contained in this package is thought to be as satisfactory as any that can be used. It is composed as follows:

- 17 parts Kentucky blue grass.
- 4 parts redtop.
- 3 parts perennial rye grass.
- 1 part white clover.

A slight modification of this will make no material difference in the appearance or success of the lawn. A mistake which is commonly made in starting a lawn is that of using too little seed. A good, thick stand of grass is essential at the beginning. In order to be certain of securing it, seed should be sown at the rate of not less than 4 or 5 pounds to the 1,000 square feet.

After the preliminary preparations previously described have been made, the surface of the area to be seeded should be thoroughly fined with a rake or similar implement, and an application of bone meal made at the rate of about 10 or 12 pounds per 1,000 square feet. The bone meal is of material benefit to the young grass, assisting it in making sufficient growth to pass the first winter in good condition. The main point to observe in seeding is to sow the seed evenly and to cover uniformly but lightly. The covering can be done on a small area with the ordinary garden rake or on a large area with a weeder. Light rolling is commonly beneficial after seeding.

#### LAWN REPAIR AND IMPROVEMENT.

The improvement of an old lawn is a very much more difficult problem than establishing a new one. In many cases it is impracticable to attempt the improvement of an old lawn that is in bad condition. However, if a reasonably good turf obtains, it is possible to better it materially by reseeding, fertilizing, and watering. In the majority of cases improvement is desired in the spring, since at this season many bare spots are in evidence as the result of the preceding winter. If the areas to be improved are small, they can be hand-worked and reseeded with little difficulty. If they are large, it is usually advisable to spade them up, work thoroughly, and seed, as in the case of starting a new lawn. In any event, reseeding should be done early in the spring with a liberal quantity of the mixture before described. When the stand of grass is thin over the entire lawn or a greater portion of it, a special seeder equipped with small disks has been found very satisfactory for cutting the seed into the sod and thereby producing favorable conditions for germination and subse-

quent growth. In the early spring, however, the soil is usually loose as a result of the freezing and thawing and is in sufficiently open condition to permit the seed to be covered with little difficulty. After seeding, if the ground has become quite dry, rolling is usually beneficial. Care should be taken when mowing or watering the newly seeded areas to avoid disturbing the young grass. This caution always applies in a measure to fall seeding, although there is not so much danger of damage in the case of the latter.

#### GENERAL LAWN MANAGEMENT.

*Fertilizing.*—The management of the lawn after it is once established is an extremely important matter, and there are a few general practices that should be followed carefully. Beginning in the early spring, the first thing to do is to remove with a rake the top dressing that has been applied the fall before. After removing this it is usually advisable to apply some fertilizer, even though the soil is already reasonably fertile. One of the very best fertilizers for the lawn in the spring is nitrate of soda, but on account of its quick action and its caustic effect extreme caution should be used in its application. Five pounds of nitrate of soda are sufficient for 1,000 square feet of lawn, and if applied in very dilute solution by a watering pot and the grass then thoroughly watered with a hose, there is little danger of scalding. Bone meal is probably the best commercial fertilizer to use on a lawn, considering the danger from the misuse of nitrate of soda. Bone meal can be used without taking any special caution in its application, as it is in no way injurious to the grass. Eight pounds to 1,000 square feet is a liberal application. Any commercial fertilizer that is used should be applied early in the spring when the grass begins to grow. In fact, bone meal can be used to advantage every month during the growing season, except perhaps July and August. Fertilizing through the season is sometimes beneficial in keeping the grass stimulated at times when it would otherwise be more or less inactive. Pulverized limestone as a top dressing is very helpful, and an application of this substance can be made either in the fall, winter, or spring. Lime corrects the acidity of the surface soil and is useful in checking the growth of moss and various other plants that are detrimental to the grass.

*Mowing and rolling.*—There is no hard and fast rule to be followed in connection with mowing the lawn, but clipping twice a week is not apt to injure it, and will induce the formation of a good turf. Too frequent clipping, however, is a drain on the vitality of the grass, and frequently results in permanent injury. There is some difference of opinion as to whether clippings should be removed after mowing, but in general their removal is advised, especially during wet weather,



since if left to lie on the surface they are conducive to the growth of molds, which in turn produce injury to the turf. On new seedings, however, or where the grass is thin, clippings can frequently be allowed to remain with benefit. New seedings should not be clipped closely, and during the hot weather of midsummer and early fall the mower should be set high for old and new grass alike. The roller should be used discreetly. New grass is frequently benefited by a light rolling after the first cutting. Old sod should be rolled in the spring to firm the surface that has been loosened by freezing and thawing, but during midseason it is very doubtful if the lawn should be rolled even lightly, especially where the soil is of a heavy nature.

*Watering*.—There are probably more mistakes made in connection with the watering of the lawn than in any other phase of its management. The practice of sprinkling as it is almost universally followed is fundamentally wrong—not that the sprinkler does not furnish enough water to the grass during the season, but that it does not furnish it in properly distributed quantities. Sprinkling for a short period may appear to wet the sod thoroughly, but in reality the water does not penetrate much below the surface. This encourages the formation of surface roots and makes the grass less resistant to the severe conditions of weather and usage. Except in rare cases, the lawn should not be watered oftener than two or three times a week, provided watering is done properly. A thorough soaking is necessary and should be given in the late afternoon or early morning. The ordinary type of revolving spray is quite satisfactory, but the amount of water applied by it is usually much less than appears. The point to be borne in mind is that the ground should be thoroughly saturated at each application to at least 3 inches in depth.

*Eradication of weeds*.—While weed enemies of the lawn are troublesome throughout the growing season, they are most particularly so from the latter part of June until frost. During this period crab grass is by far the worst weed present. There is no really satisfactory method of checking its growth, and the only treatment to be recommended is to cut or pull the plants before they have formed large mats. This is a very tedious and expensive practice, but where a good lawn is involved the results justify the expense. Rational fertilizing and careful watering during the summer help to overcome the effect of weeds. Chemical sprays or treatment have proven to be of very little assistance. Much difficulty is experienced in cutting crab grass with the ordinary mower on account of its semiprostrate character. This difficulty can be overcome to a certain extent if a rake is used in conjunction with the mower. By means of the rake the branches of the grass may be lifted so that they can be clipped reasonably close. It is almost impossible, however, to cut crab grass sufficiently close to

prevent the formation of seed. There are many other weeds that are troublesome in the lawn not only in the spring but also in the summer and autumn. Among the most important ones are dandelion, plantain, chickweed, ox-eye daisy, and yarrow. While chemical sprays are more effective in the eradication of these weeds than in the case of crab grass, the best method of preventing their development is to remove them with a spud or similar implement. The weed problem can perhaps best be solved by making the conditions as favorable as possible for the lawn grasses and to maintain a strict watch at all times to check the growth of the troublesome weeds at the beginning. At the end of the growing season before the severe weather of winter arrives the lawn should be given a good top-dressing of well-rotted barnyard manure. If the manure is not well rotted, it is likely to introduce an abundance of weed seeds, which will ultimately cause considerable trouble. Top-dressing not only adds fertility to the soil, but gives the grass protection during the severe weather of winter and the freezing and thawing of early spring.

#### SHADE ON LAWNS.

To produce a good lawn in shade, especially in dense shade under trees and shrubs, is a very difficult matter. The grasses of this mixture are not particularly shade-loving grasses, but they can be made to thrive reasonably well if given proper treatment. By thorough watering and a liberal use of fertilizers the evil effects of the shade can in many cases be largely overcome.

#### BULLETIN ON LAWNS.

Farmers' Bulletin 494 on Lawn Soils and Lawns may be procured on application to the Secretary of Agriculture, Washington, D. C.  
JULY 22, 1915.









